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IN THE

Supreme Court of the United States

OCTOBER TERM, 1982

METROPOLITAN EDISON COMPANY,
JERSEY CENTRAL POWER & LIGHT COMPANY
AND PENNSYLVANIA ELECTRIC COMPANY,
Petitioners,

v.

PEOPLE AGAINST NUCLEAR ENERGY, *et al.*,
Respondents.

UNITED STATES NUCLEAR REGULATORY COMMISSION
AND THE UNITED STATES OF AMERICA,
Petitioners,

v.

PEOPLE AGAINST NUCLEAR ENERGY, *et al.*,
Respondents.

On Writs of Certiorari to the United States Court of Appeals for the District of Columbia Circuit

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BRIEF FOR *AMICUS CURIAE* SCIENTISTS AND ENGINEERS FOR SECURE ENERGY, INC.

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BRIEF FOR *AMICUS CURIAE* SCIENTISTS AND ENGINEERS FOR SECURE ENERGY, INC.

In accordance with this Court's Rule 36.2, Scientists and Engineers for Secure Energy, Inc. ("SE$_2$") has received and filed with the Court the written consents of counsel for the parties to appear as an *amicus curiae* in this proceeding. This brief is submitted by SE$_2$ in support of Petitioners Metropolitan Edison Company, Jersey Central Power & Light Company and Pennsylvania Elec-

tric Company in No. 81-2399, and Petitioners the United States Nuclear Regulatory Commission and the United States of America in No. 82-358.

INTEREST OF SCIENTISTS AND ENGINEERS FOR SECURE ENERGY, INC.

SE$_2$ supports the petitioners in this matter. SE$_2$ is an incorporated nationwide organization, formed in the Spring of 1976, of over 1000 faculty members and researchers from American colleges and universities, both State and private, and other persons engaged in the sciences. Its purpose is to correct the alarming degree of misunderstanding on fundamental scientific and technological issues permeating the national energy debate, especially with respect to the balancing of environmental concerns. In pursuing this objective SE$_2$ is committed to offering its views, based on the considerable knowledge and expertise of its members, to the public and to the various governmental agencies with responsibility for the development of a proper legal framework for the resolution of energy issues, including participation in judicial proceedings.

As citizens, members of SE$_2$ are deeply concerned for the well-being and future hopes of our society. SE$_2$ and its members have an interest in assuring that consideration of major federal actions is conducted under the National Environmental Policy Act, 42 U.S.C. §§ 4321-4347 (1976 & Supp. IV 1980) ("NEPA"), in accord with scientific principles and that debate of pseudo-scientific questions be excluded from the decisionmaking process. Therefore, they support the petitioners urging reversal of the decision of the court of appeals in this matter.

In their professional roles, they are also keenly sensitive to the limits of scientific knowledge and meaningful adjudication.[1]

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[1] Jack Zusman, M.D., M.P.H., Director of the Florida Mental Health Institute, provided particularly valuable assistance in the preparation of the medical and scientific aspects of this brief.

In particular, SE$_2$'s members are sensitive to the need to confine the consideration of issues in adjudicatory proceedings to those reasonably susceptible to proof in accord with the limits of scientific knowledge. This reflects the primacy of reason in our governance and the concomitant exclusion of the irrational—of fear. It is only when fear is admitted as a valid independent basis for action or inaction that our society has cause to tremble.[2] As President Franklin D. Roosevelt said, "the only thing we have to fear is fear itself—nameless, unreasoning, unjustified terror which paralyzes needed efforts to convert retreat into advance."[3]

In the case before the Court, the interest of the scientific community, as represented by SE$_2$, joins that of the legal community in urging that adjudicatory decisions on nuclear power be made on a rational basis (including whether there is any rational basis for fear) but that fear itself be rejected.

SUPPLEMENTAL STATEMENT OF THE CASE

SE$_2$ adopts and incorporates by reference the Statement of the Case contained in the Brief filed herein by Petitioners Metropolitan Edison Company, Jersey Central Power & Light Company and Pennsylvania Electric Company ("Metropolitan Edison"). The following additional information, however, is germane to SE$_2$'s argument.

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[2] One of the most troubling periods of our colonial history occurred during the Salem witchtrials when ". . . the Judges desiring to bear due Testimony against such Diabolical Practices, were inclined to admit the validity of such a sort of Evidence as was not so clearly and directly demonstrable to Human Senses, as in other Cases is required, ..." Account by Dr. Deodat Lawson (c. 1700), reprinted in NARRATIVES OF WITCHCRAFT CASES 1648-1706, 150 (Burr ed. 1966).

[3] Inaugural Address of Franklin D. Roosevelt, Sen. Doc. No. 1, 73d Cong., Special Sess. 1 (1933).

The Licensing Board's Order of September 21, 1979

On September 21, 1979, the Atomic Safety and Licensing Board ("Board") issued an order noting[4]:

> we request any party or petitioner seeking to litigate psychological issues to submit a preliminary plan for the presentation of psychological distress evidence. *The plan should address the expected availability of expert testimony; factual testimony; and evidence of indirect indicators of continuing psychological distress*, such as population relocations and real estate values. *Of particular value would be a discussion of the state of the art of stress psychology and whether it can produce reliable evidence on the subject at hand.*

Id. at 24 (emphasis added).[5]

On October 1, 1979, People Against Nuclear Energy ("PANE") moved the Board to delete its request that petitioners submit a preliminary evidentiary plan. On October 16, 1979, the Board denied PANE's motion but granted an extension of time for submitting the plan.[6] The Board stated that:

> PANE has mischaracterized our request . . . we twice stated that our request was for a *preliminary*

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[4] *In the Matter of Metropolitan Edison Co., Three Mile Island Nuclear Station, Unit No. 1* (ASLB, Sept. 21, 1979) (Memorandum and Order Ruling on Petitions and Setting Special Prehearing Conference) at 26.

[5] Petitioners for leave to intervene were ordered to provide the Commission staff and the licensee with draft contentions by October 5, 1979, and final contentions, *"together with the bases for each contention set forth with reasonable specificity,"* no later than October 22, 1979. *Id.* at 25 (emphasis added). The petitioners' briefs on psychological distress issues were also required to be filed no later than October 22, 1979. *Id.*

[6] *In the Matter of Metropolitan Edison Co., Three Mile Island Nuclear Station, Unit No. 1* (ASLB, Oct. 16, 1979) (Memorandum and Order on Motions to Modify).

> plan, and we stated that we do not intend to bind the parties to a final approach to litigating the issue.

Id. at 2 (emphasis in original).

The Board further noted that it had requested a preliminary plan of evidence, distinct from a legal brief, because "this board in the discharge of its responsibilities *intends to be informed, if possible, how and if available evidence will justify a psychological distress contention.*" *Id.* at 3-4 (emphasis added). Finally, the Board expressed its surprise that PANE regarded its request for a preliminary plan to be improper and burdensome since the request should be viewed as "an invitation to petitioners affording them an early opportunity to convince the Board and the Commission that the psychological issues are suitable for adjudication." *Id.* at 4.

PANE'S Brief

In its brief, PANE argued that its psychological distress contention was "verifiable and measurable under the techniques of modern medical science." *Id.* at 12. PANE distinguished its contention from worry and concern on the ground that its "contention is that people have been traumatized in a manner that can be medically diagnosed and that their trauma will be compounded and made permanent by reopening TMI Unit 1." *Id.* at 6. PANE based the argument that its contention was subject to measurement on two assertions, including the assertion that "the diagnosable condition of 'post-traumatic stress disorder' has now been recognized and included in the most recent draft of the Diagnostic and Statistical Manual of Mental Disorders published by the American Psychiatric Association (DSM-III)." *Id.* at 12-13.

PANE's Preliminary Plan

PANE indicated that its case would consist of four parts: (1) the evaluation of studies done by others on the psychological impacts of the accident; (2) the presen-

tation of a comprehensive study to be done by PANE's expert witnesses on impacts in the area within five miles of TMI; (3) the testimony of individuals concerning their own experiences; and (4) the conclusions of PANE's expert witnesses concerning the psychological and community health impacts of the TMI Unit 2 accident and of the renewed operations of TMI Unit 1 (J.A. 26). PANE further stated that its experts would "explain the additional information that is needed in order to reach valid conclusions on the issues before the NRC" (J.A. 26).

The Board's Certification

In its certification, the Board stated that:

> *We cannot identify a source of evidence* which would permit the measurement of the psychological stress phenomenon well enough to use in a full-scale cost/benefit balancing in an EIS. *Nor do we know whether or not the state of the art can now produce such evidence.*

(J.A. 40-41) (emphasis added).

The Board's analysis then turned to a discussion of the Commission's authority under NEPA to consider psychological stress *outside the context of an EIS* and to take reasonable actions to mitigate those fears (J.A. 41).

SUMMARY OF ARGUMENT

This Court's decision in *Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc.*, 435 U.S. 519 (1978) (*"Vermont Yankee II"*) requires reversal of the decision below because PANE failed to structure its participation in any meaningful fashion (a) by its failure to participate in the Commission's consideration of the safety issues which could form a reasonable basis for fear and (b) even when given the opportunity to show the relevance of its contention and the bases therefore, PANE failed to make more than a naked assertion of relevance and susceptibility to proof.

Also, the order of the court of appeals, on its face, violates *Vermont Yankee II* both by requiring repeated (if not additional) procedures to those already applied by the Commission and approved by this Court, and by requiring the Commission to investigate whether there are any "significant new circumstances or information available." The only relevant "circumstances" and "information" to the review of the Commission's decision was that available to it at the time of the decision. "If . . . litigants might demand rehearings as a matter of law because some new circumstance has arisen, . . . , or some new fact discovered, there would be little hope that the administrative process could ever be consummated in an order that would not be subject to reopening." *Vermont Yankee II*, 435 U.S. at 554-55 *quoting ICC v. Jersey City*, 322 U.S. 503, 514 (1944).

Finally, we present an analysis of the psychiatric, sociological and other literature demonstrating the absence of the consensus in methodology and fact required for an issue to be reasonably susceptible to proof in an adjudicatory proceeding. *See Roe v. Wade*, 410 U.S. 113, 159 (1973). Moreover, we suggest that when that state of the art is reached, it will provide another dimension to the consideration, including elimination or amelioration, of the causes of fear; it will not legitimize the consideration of fear itself.

ARGUMENT

I. THE PROCEDURES EMPLOYED BY THE COMMISSION IN THE RESTART PROCEEDING WERE ADEQUATE TO ADDRESS ALL RATIONAL BASES FOR PSYCHOLOGICAL DISTRESS.

A. The Commission Ensured that the TMI-1 Restart Proceeding Would Address All Rational Bases For Psychological Distress.

In both its July 2, 1979 Order requiring the continued shutdown of TMI-1 (J.A. 8), and its August 9, 1979 Order setting forth the procedures to be followed at the

restart proceeding (J.A. 9-24), the Commission stressed the need for "reasonable assurance that [TMI-1] can be operated without endangering the health and safety of the public" prior to restart (J.A. 10). To provide that assurance, the Commission ordered that TMI-1 remain in a cold shutdown condition pending (1) satisfactory completion by the licensee of certain "short-term" actions (J.A. 13-15)[7]; (2) reasonable progress by the licensee toward satisfactory completion of certain "long-term" actions (J.A. 15-16)[8]; and (3) the conduct of an adjudicatory proceeding and final decision by the Commission (J.A. 9-10).

There can be no doubt that the Commission ordered the Board to conduct a full adjudicatory hearing on the issue of the restart of TMI-1 utilizing the maximum procedural safeguards available under its rules of practice. The Commission directed that it "be conducted in accordance with the applicable provisions of subpart G of the Commission's Rules of Practice set forth in 10 CFR Part 2" (J.A. 17). The Commission further specifically directed that "[t]he provisions of 10 CFR 2.715a (consolidation of parties), 2.751a (special prehearing conference and order), 2.752 (prehearing conference and order) shall apply to this proceeding."[9] (J.A. 17-18).

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[7] The short-term actions specified by the Commission included, for example, retraining of reactor operators, improvement of emergency plans, and upgrading of the Emergency Feedwater System.

[8] The long-term actions specified by the Commission included, for example, a failure mode and effects analysis of the Integrated Control System, the implementation of a formal program to assure attention to transient analysis and implementation of procedures for management of small breaks, and more extensive emergency response preparedness.

[9] In addition, the Commission advised the Board to "exercise its authority to seek to ensure that it receives all information necessary to a thorough investigation and resolution of the questions before it" (J.A. 18). Finally, the Commission ordered the Board, upon issuance of the initial decision (or partial initial decision), to certify the record to the Commission itself for final decision (J.A. 18).

In sum, the Commission took every step possible to ensure that the restart of TMI-1 would not endanger the public health and safety and thereby to eliminate any rational bases for psychological distress as a result of the restart. To be sure, NEPA requires that an agency make a "fully informed and well-considered opinion to proceed with a proposal by taking a "hard look" at the pertinent environmental impacts. *North Slope Borough v. Andrus*, 642 F.2d 589, 599 (D.C. Cir. 1980). NEPA thus requires an agency to factor the environmental costs of proceeding with a proposed action into the decision-making process.

The ultimate purpose of the NEPA analysis, however, is to enable the agency to ameliorate or mitigate the cause of the environmental costs by modifying its proposed action. In this case, the Commission has ameliorated the environmental costs of the restart of TMI-1 by requiring the licensee to undertake certain short-term and long-term actions, and by conducting an adjudicatory proceeding to ensure that the plant can be operated without endangering the public health and safety.[10]

Ironically, however, PANE did *not* seek to intervene in the proceeding, at any point, to raise contentions related to the design, management or operation of TMI-1. Yet, numerous contentions could have been raised by PANE in an effort to reduce psychological distress arising from fears of a lack of safety, if one accepts the Board's belief that psychological distress could be mitigated by the imposition of "reasonable, cost-effective conditions on the operation of TMI-1" or through "additional,

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[10] The restart proceeding lasted from October 15, 1980 through July 9, 1981; the record was reopened from November 11, 1981 through December 10, 1981. The Board agreed to admit "any otherwise allowable contention having a reasonable nexus to the TMI-2 accident." Over 100 separate contentions were proposed and over 175 witnesses testified, producing a transcript of over 26,000 pages. *In the matter of Metropolitan Edison Co., Three Mile Island, Unit No. 1*, 14 N.R.C. 381, 394 (ASLB 1981).

continuous off-site monitoring visible by the residents around the facility" (J.A. 44). PANE never raised the need for any such measures to the Board.

The Commission's rules of practice allow for limited appearances in licensing proceedings to hear non-evidentiary concerns. 10 C.F.R. § 2.715(a) (1982). But PANE never availed itself of one of the most effective means for ameliorating psychological stress noted by the Board—the "opportunity for the public in the vicinity of TMI to express through the NRC hearing process their fears" (J.A. 45). In sum, given the unusually broad scope and extensiveness of the restart proceeding and PANE's failure to participate therein, it is disingenuous for PANE to now argue that the Commission failed to give adequate consideration to the effects of the renewed operation of TMI-1.

B. The Commission Also Provided PANE the Opportunity to Make a Threshold Showing That its Novel Psychological Distress Contention Should Be Considered.

As we have described in our supplementary statement of the case, the procedures employed by the Commission and the Board in the TMI-1 restart proceeding provided PANE the opportunity to make a threshold showing sufficient to trigger the Commission's consideration of its novel psychological distress contention.[11] PANE fell far short of meeting this burden.

In *Vermont Yankee II*, this Court stated that

> while it is true that NEPA places upon an agency the obligation to consider every significant aspect of the environmental impact of a proposed action, it is

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[11] The novelty of PANE's contention is that PANE would have the Commission consider psychological distress regardless of whether there is a rational basis for that distress. Indeed, PANE's stated goal—to permanently close down Three Mile Island as a nuclear facility—indicates that PANE is not concerned with whether its psychological distress contention is grounded on an actual or potential threat to the public health and safety.

> still incumbent upon intervenors who wish to participate to structure their participation so that it is meaningful, so that it alerts the agency to the intervenors' position and contentions. This is especially true when the intervenors are requesting the agency to embark upon an exploration of uncharted territory . . .

435 U.S. at 553. The Court upheld the Commission's "threshold test", which required the Commission to consider the novel alternative of energy conservation to a proposed nuclear plant only if the intervenors made a threshold showing that energy conservation alternatives were "reasonably available, would in their aggregate effect curtail demand for electricity to a level at which the proposed facility would not be needed, and were *susceptible of a reasonable degree of proof.*" *Id.* (citations omitted; emphasis added).

The requirement that participants in an agency proceeding make a threshold showing in order to trigger agency action has been upheld by the courts in numerous contexts. For example, in *Georgia-Pacific Corporation v. EPA*, 671 F.2d 1235 (9th Cir. 1982), the court stated "[i]t is well-established that before a hearing is required in a permit application proceeding the applicant must 'meet a threshold burden of tendering evidence suggesting the need for a hearing.'" 671 F.2d at 1241, *quoting Costle v. Pacific Legal Foundation*, 445 U.S. 198, 214 (1980). Similarly, in *Sierra Club v. Sigler*, 532 F.Supp. 1222 (S.D. Tex. 1982), the district court held that an environmental impact statement ("EIS") prepared by the Army Corps of Engineers for the construction of a deepwater port complied with NEPA despite the failure to discuss the possibility of a massive oil spill, noting that:

> plaintiffs have drawn this Court's attention to no method by which the Corps could have informatively predicted the extent to which a "worst case" spill might have been transported into Galveston Bay so as to permit any detailed discussion of the com-

> parative severity of impacts with and without the project. The record before the Court suggests no means through which the FEIS could have conducted such an analysis with accuracy beyond an initial 24-hour period. In other words, the evidence fails to show that such an "analysis" could have been predicated on anything more than guesswork.

Id. at 1234 (footnote omitted).[12]

An examination of the record reveals that the procedures employed by the Commission and the Board in effect required PANE to make a "threshold showing" that its psychological distress contention was both relevant and susceptible to a reasonable degree of proof. The Board, concerned about the difficulty in proving the existence of a causal nexus between future psychological distress and the renewed operation of TMI-1, requested intervenors to submit a preliminary plan for the presentation of evidence including a "discussion of the state of the art of stress psychology and whether it can produce reliable evidence on the subject at hand."[13] After PANE resisted this request, the Board stressed that the preliminary plan

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[12] *See also Life of the Land v. Brinegar*, 485 F.2d 460, 469 (9th Cir. 1973), *cert. denied*, 416 U.S. 961 (1974), where an EIS complied with NEPA despite the failure to include a study of the demographic effects of a project because there was "no empirical data in the record" supportive of plaintiffs' allegation of the project's effect on the "quality of life"; *National Indian Youth Council v. Watt*, 664 F.2d 220, 226 (10th Cir. 1981), where there was no need for a supplemental EIS because "plaintiffs have failed to identify any specific, significant information" generated after the EIS was prepared: "[t]he issue must be decided on the basis of the record, not by crystal ball gazing"; *New England Coalition on Nuclear Pollution v. NRC*, 582 F.2d 87, 99 (1st Cir. 1978), where there was no allegation that the Licensing Board had not accepted testimony on effects of nuclear plant on areas' tourist industry, reviewing court will not dictate the proper number of witnesses or the proper length or depth of a hearing.

[13] Board's Sept. 21, 1979 Order at 24.

was necessary for it to "be informed, if possible, how and if available evidence will justify a psychological stress contention." [14]

The simple fact is that PANE failed to make the requisite threshold showing necessary to trigger the Commission's consideration of its psychological distress contention. The record reveals that PANE never took the opportunity to provide any meaningful definition of that contention. Only after initially resisting the Board's request for a preliminary plan did PANE comply formally. And then, PANE's "evidentiary plan" was nothing more than a tautological restatement of its contention with a suggestion of the use of post-disaster studies, expert witnesses, and the testimony of its members. The plan (a) did not address the basis in the psychological literature for the validity or reliability of studies of the consequences of TMI-2, (b) did not identify who would be PANE's "expert witnesses," (c) did not suggest what the methodology of the PANE "comprehensive study" would be, (d) did not suggest the relevance of the "testimony of individuals concerning their own experiences," [15] and (e) only in its fourth part did it even mention the predictive psychological health impacts of renewed operation of TMI-1. With respect to such predictions, PANE offered only to provide "the conclusion of PANE's [then unidentified] expert witnesses" without any suggestion of the psychological, sociological, or other bases (and related methodology) for such "conclusions" (J.A. 27).

PANE's brief failed to provide any further elucidation of the state of the art of stress psychology. In fact,

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[14] Board's Oct. 16, 1979 Order at 4.

[15] In its certification to the Commission, the Board emphatically rejected the relevance of such idiosyncratic statements noting that "a parade of witnesses describing their personal experiences during the TMI 2 accident and their concerns about restarting TMI 1 . . . would soon become cumulative and, in any event, would be of doubtful value" (J.A. 46).

PANE's brief did *not* address in any way the ability of psychology to measure, or predict, potential fears or distress that may result from a future event. Rather, it focused on the ability of psychology to measure psychological distress among a population as the result of a traumatic occurrence; the brief is devoid of any discussion of the predictive validity of such studies. Yet, the occurrence of psychological distress as a result of the restart of TMI-1 is the basis for PANE's contention, not the degree to which its members suffered psychological distress from the accident at TMI-2. In short, PANE failed to provide any bases for the relevance of its contention to the restart proceeding or its susceptibility to a reasonable degree of proof.

II. THE COURT OF APPEALS ERRED IN REQUIRING THE COMMISSION TO REDETERMINE THE ADMISSIBILITY OF PANE'S PSYCHOLOGICAL DISTRESS CONTENTION.

Stripped of all its trimmings, this case is simply another attempt by the D.C. Circuit to sidestep the mandate of *Vermont Yankee II*. The record demonstrates that the Commission employed the full range of its procedural rules to ensure that all rational bases for psychological distress as a result of the restart of TMI-1 were eliminated. To determine the legal relevancy of PANE's psychological distress contention to the proceeding, absent technical bases for those fears, the Commission even gave PANE the opportunity to present evidence on the relevance of its contention and the state of the art of stress psychology.

The court below did not find that the Commission's procedures were inadequate nor that the Commission failed to adhere to them. Nevertheless, the court of appeals remanded the record for a "study of potential psychological health effects and for a decision whether a supplemental EIS is necessary" (Pet. App. 28a). It is manifest that the Commission has already performed the analysis required by the court of appeals.

In *Vermont Yankee II*, this Court unequivocally stated that

> Absent constitutional constraints or extremely compelling circumstances 'the administrative agencies should be free to fashion their own rules of procedure and to pursue methods of inquiry capable of permitting them to discharge their multitudinous duties.'

435 U.S. at 543-44 (citations omitted). This Court further stated that although NEPA "has altered slightly the statutory balance," *Id.* at 551, it "cannot serve as a basis for a substantial revision of the carefully constructed procedural specifications of the APA." *Id.* at 548. Finally, the Court admonished the D.C. Circuit that nuclear policy questions are "appropriately resolved in Congress and in the state legislatures [and] are *not* subject to reexamination in the federal courts under the guise of judicial review of agency action." *Id.* at 558 (emphasis in original). The decision below ignores each of these basic principles of judicial review of agency action.

In *Vermont Yankee II*, this Court chided the D.C. Circuit for departing from the "very basic tenet of administrative law that agencies should be free to fashion their own rules of procedures." *Id.* at 544. In subsequent cases, the court of appeals has cited this Court's decisions in both *Vermont Yankee II* and *Strycker's Bay Neighborhood Council, Inc. v. Karlen*, 444 U.S. 223 (1980), in support of the limited role of the Federal courts in the review of agency actions, especially in the NEPA context.[16]

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[16] *See, e.g., North Slope Borough*, 642 F.2d at 599; *see also Natural Resources Defense Council, Inc. v. SEC*, 606 F.2d 1031, 1044, 1048-49 (D.C. Cir. 1979). In fact, the D.C. Circuit recently stated that where an agency's decision is "fully informed and well considered," *Vermont Yankee II*, 435 U.S. at 558, reversal by a reviewing court constitutes "an unjustifiable intrusion into the administrative process." *Cabinet Mountains Wilderness/Scotchman's*

A comparison of the court of appeals' January 7, 1982 Judgment with its April 2, 1982 Amended Judgment indicates that the court, cognizant of the intrusive nature of its earlier judgment into the Commission's procedures, attempted to suggest that its decision complied with the mandate of *Vermont Yankee II*. In the Initial Judgment, the court of appeals ordered the Commission to "prepare an environmental assessment regarding the effects of the proposed restart of the nuclear facility at Three Mile Island Unit One (TMI-1) on the psychological health of neighboring residents and on the well-being of the surrounding communities" (Pet. App. 105a-106a), in order to decide if a full EIS was required (Pet. App. 106a).

In the April 2, 1982 Amended Judgment, the court of appeals ordered the Commission to determine whether, since the preparation of the original EIS for TMI-1, "significant new circumstances or information have arisen with respect to the potential psychological health effects of operating the TMI-1 facility" and, if so, to prepare a supplemental EIS (Pet. App. 103a-104a). In further formal deference to *Vermont Yankee II*, however, the court stated that "[t]he Commission may choose the procedures by which it makes this determination" (Pet. App. 104a).

Thus, despite the fact that the Commission had already *chosen* and *employed* procedures to determine the relevancy of PANE's psychological distress contentions, which the court did not find to be arbitrary or capricious, the court of appeals would have the Commission reconsider the issue, and seek *new* evidence relevant thereto. Although the court of appeals intentionally did not indicate whether the Commission should employ different or additional procedures to make this determination, the message of the order is clear—reconsider PANE's contention and come up with a different result.

Peak Grizzly Bears v. Peterson, 685 F.2d 678, 684 (D.C. Cir. 1982).

As the D.C. Circuit well knows, the proper role of a court in reviewing agency compliance with NEPA is beyond dispute. "[O]nce an agency has made a decision subject to NEPA's procedural requirements, the only role for a court is to insure that the agency has considered the environmental consequences; it cannot 'interject itself within the area of discretion of the executive as to the choice of action to be taken.'" *Stryckers Bay*, 444 U.S. at 227-28 *quoting Kleppe v. Sierra Club*, 427 U.S. 390, 410 n.21 (1976).

Moreover, the rationality of an agency's decision to proceed with a proposed action—in this case the renewed operation of TMI-1—must be judged on the basis of the record before the agency and the facts then available to it. *Vermont Yankee II*, 435 U.S. at 554-55. Obviously, there will always be a gap between the time the administrative record is closed and the time the administrative decision is promulgated. *Id.* However, agency time and resources are short; there must be a reasonable limit to the agency's responsibility to admit and consider evidence, otherwise "there would be little hope that the administrative process could ever be consummated in an order that would not be subject to reopening." *ICC v. Jersey City*, 322 U.S. 503, 514 (1944) *quoted in Vermont Yankee II*, 435 U.S. at 554-55. By requiring the Commission to reopen the record, seek *new* facts and circumstances, and to redetermine the relevance of PANE's psychological distress contention, the court of appeals has violated the mandate of *Vermont Yankee II*.

III. THERE IS NO SCIENTIFICALLY VALID "EVIDENCE" RELEVANT TO AN ADJUDICATORY PROCEEDING FOR THE NEPA CONSIDERATION OF THE MENTAL HEALTH EFFECTS OF THE RESTART OF TMI-1.

The premise for the consideration of even a well-articulated contention in a nuclear licensing proceeding is that it be "susceptible of a reasonable degree of proof." *Vermont Yankee II*, 435 U.S. at 533.

If this Court should find the contention to have been adequately articulated, *and not* to have been capable of inclusion in the Commission's consideration of objective causes for fear, one must then ask whether the contention presents a theory which has been medically recognized or can be scientifically validated so that it is admissible in an adjudicatory proceeding. As this Court has previously said: "When those trained in the respective disciplines of medicine, philosophy, and theology are unable to arrive at any consensus, the judiciary, at this point in the development of man's knowledge, is not in a position to speculate as to the answer." *Roe v. Wade*, 410 U.S. 113, 159 (1973).

In order to determine the admissibility of the contention, we (1) summarize the contention as stated by PANE initially and then developed by the court of appeals and (2) address the elements of its formulations in the light of the medical and scientific literature.

A. The Contention

PANE contends that the TMI-2 incident has (a) "impaired the health and sense of well being" of its members and others (b) as evidenced by "their feelings of increased anxiety, tension and fear, a sense of helplessness and such physical disorders as skin rashes, aggravated ulcers, and skeletal and muscular problems" (Pet. App. 115a). It then characterizes these conditions as "manifestations of psychological distress" similar to "the aftermath of other disasters" and states that the possibility of the restart of TMI-1 "severely aggravates these problems." [17] The conclusion is that even the continued "possibility" of restart, much less restart itself, makes its

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[17] In its brief, PANE identified this condition as including Post-Traumatic Stress Disorder as it was about to be adopted by the American Psychiatric Association in DSM-III. *Certification* at A-101 and A-102. And still later in its brief to the court of appeals its characterized the condition as "severe psychological distress" (Pet. App. 10a).

members and others "unable to resolve and recover from the trauma."

The lower court's concept of the contention, as it matured in litigation, is slightly different: The majority below appears to find that an EIS is required only in situations involving "severe psychological effects" (that is, "psychological effects [rising] to the level of psychological health effects") and that at least one class of such "psychological health effects" may be defined as "post-traumatic anxieties, accompanied by physical effects and caused by fears of recurring catastrophe" [18] (Pet. App. 16a-17a).

These formulations may be summarized as follows: The TMI-2 incident constituted (1) a disaster which (2) was a severe stressor which (3) had a negative impact on the surrounding residents causing (4) post-traumatic stress disorders with (5) accompanying physical symptoms. Further, (6) PANE's studies and expert testimony can (7) predict the aggravation of this mental disorder and its resultant physical disorders due to restart or even the possibility of restart.

B. Analysis in Light of the Scientific Literature

Disaster: Is the TMI-2 incident properly characterized as a "disaster" as that term is used in psychological literature?

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[18] There is language in the majority opinion which some read to limit this NEPA inquiry further to this single reactor or perhaps even this single point of time in the reactor's licensing career: "Americans have never before experienced the psychological aftermath of a major accident at a nuclear power plant, one that aroused fears of a nuclear core meltdown and led to mass evacuation from the surrounding communities" (Pet. App. 13a-14a). We, however, agree with Judge Wilkey that the decision would not be so limited (Pet. App. 59a). We also note that evacuation due to natural disasters (*e.g.*, hurricanes) and industrial pollution (*e.g.*, Love Canal) are familiar events in American society today. For example, just recently 20,000 people were evacuated before dawn *from a five-mile radius* around the explosion of an underground chemical storage tank in Destrehan, Louisiana. N.Y. Times, Dec. 12, 1982, at 30, col. 1.

In psychology, the term "disaster" has ordinarily been applied to events such as floods, earthquakes, tsunami, the nuclear bombing of Nagasaki and Hiroshima, the 1943 Coconut Grove Nightclub fire and the Buffalo Creek Flood.[19]

But what was the nature of the TMI-2 incident? (For Judge Wilkey's view, see Pet. App. 46a n.37.) On March 28, 1979, TMI-2 suffered internal damage. As a result of a misunderstanding of the internal condition of the reactor, a partial voluntary evacuation within a five-mile radius of the plant ensued. There was no loss of life or other physical injury to persons and there was no damage to any property outside of the reactor itself. In fact, the short-term stress resulting from the incident has been attributed by some responsible authorities to misunderstanding by the media and the dissemination of misinformation through the media.[20]

However, regardless of whether one identifies the cause of the stress as the incident itself or the mischaracterization of it, there is no doubt that some level of fear occurred in some people, at least until a correct characterization of the incident was disseminated. Perhaps a better characterization of the event would be as a "trau-

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[19] See Singer, *An Introduction to Disaster: Some Considerations of a Psychological Nature*, 53 AVIATION, SPACE AND ENVIRONMENTAL MEDICINE No. 3 at 245 (March 1982) and references therein; ERIKSON, EVERYTHING IN ITS PATH, *infra* note 21.

[20] Report of the President's Commission on THE ACCIDENT AT THREE MILE ISLAND, *The Need For Change: The Legacy of TMI* 58, 78-79 (1979). Also, a recent study compared the attitudes toward nuclear energy of scientists and various classifications of journalists. It may not be surprising that the results indicate a favorable attitude (in declining order) on the part of nuclear experts, energy experts, all scientists, science journalists and "prestige press journalists," with TV reporters and producers and public TV journalists possessing negative attitudes. Rothman and Lichter, *The Nuclear Energy Debate: Scientists, The Media and the Public*, PUBLIC OPINION 47, 51 (Aug./Sept. 1982).

matic event"[21] or, in the American Psychiatric Association's technical terminology, a "stressor."

Severe Stress: Grasping what stress (and, in turn, "severe stress") means in a psychiatric sense is extraordinarily difficult. As one authority has written, "the single most remarkable historical fact concerning the term 'stress' is its persistent, wide-spread usage in biology and medicine in spite of almost chaotic disagreement over its definition.[22] As these things work, the most commonly accepted definition currently is *any* "life event," meaning *any* change in one's state. This is best illustrated by examination of the classification of "stressors" in the AMERICAN PSYCHIATRIC ASSOCIATION, QUICK REFERENCE TO THE DIAGNOSTIC CRITERIA FROM DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS, 3d ed. (1980) (*"Quick Reference"*).

DSM-III provides for an impressionistic coding of the overall severity of a "stressor" by a clinician in eight categories with examples, as follows: "none (no apparent

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[21] The definition of "trauma" is becoming so diffuse as to be empty of any real meaning. As Dr. Kai Erickson has written:

> One does not need to visit the homes of the wretched to find symptoms of trauma, for there are ample indications that *modern life itself can become a principal cause of traumatic reactions* . . . if it makes sense to assume that the processes of modernization often breed their own forms of chronic disaster; then it is reasonable to wonder whether traumatization is apt to become an increasingly common experience in human life.

ERIKSON, EVERYTHING IN ITS PATH: DESTRUCTION OF COMMUNITY IN THE BUFFALO CREEK FLOOD 256 (1976) (emphasis added).

[22] Mason, *A Historical View of the Stress Field: Part One* 1 JOURNAL OF HUMAN STRESS No. 1 at 6 (1975). And another authority has written: "Stress research is in crisis. Methodology lacks refinement; therefore, validity is often not accepted. Its change and use of findings between practitioners in the medical model and those in the psychological and social sciences is the exception rather than the rule . . . and what consensus may be possible is not adequately disseminated for beneficial application beyond home base." Rose, *Editorial*, 3 JOURNAL OF HUMAN STRESS No. 1 at 3 (1977).

psychosocial stressor), minimal (minor violation of the law; small bank loan), mild (argument with neighbor; change in work hours), moderate (new career; death of close friend; pregnancy), *severe* (*serious illness in self or family; major financial loss; marital separation; birth of child*), extreme (death of close relative; divorce), catastrophic (concentration camp experience; devastating natural disaster), and unspecified (no information or not applicable)." *Quick Reference* at 14-15 (emphasis added).

Thus, if one is willing to ignore the recognized controversy over what stress is and accept the current classifications of stress by the American Psychiatric Association, PANE and the court below have agreed that the stress caused by the TMI-2 incident is equivalent to the stress caused by a negative event of the level of a serious illness in oneself or family, or a positive event such as the birth of a child. Thus, placed among the technical gradations of stressors, the use of "severe" may be seen in perspective, referring not only to the TMI-2 incident but also to other life events shared by all of us.

Moreover, both PANE and the lower court ignore the fact that many experts believe stress can have positive effects. In fact, numerous studies following the occurrence of a disaster have concluded that there was an overall beneficial effect on the exposed population. *See, e.g.*, Wilson, *Disaster and Mental Health* contained in BAKER & CHAPMAN, MAN AND SOCIETY IN DISASTER (1962) at 132-33. ("There is a good bit of evidence that disaster experience may constitute for many people an 'optimal stress' which promotes active mental harmony rather than psychiatric disorder.")[23]

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[23] See also BARTON, COMMUNITIES IN DISASTER: A SOCIOLOGICAL ANALYSIS OF COLLECTIVE STRESS SITUATIONS (1970); Dynes & Quarentelli, *The Family and Community Context of Individual Reactions to Disaster* in PARAD, RESNICK & PARAD, EMERGENCY AND DISASTER MANAGEMENT: A MENTAL HEALTH SOURCE BOOK (1976); TAYLOR, DELIVERY OF MENTAL HEALTH SERVICES IN DISASTER: THE XENIA TORNADO (Disaster Research Center, Ohio State University 1976);

Post-Traumatic Stress Disorder: PANE has relied on, and the court below apparently accepted, the fact that post-traumatic psychological stress appears in AMERICAN PSYCHIATRIC ASSOCIATION, THE DIAGNOSTIC AND STATISTICAL MANUAL OF MENTAL DISORDERS, 3d ed. (1980) ("DSM-III") as evidence that it is a recognized form of mental illness. However, DSM-III states that a *premise* for application of its diagnostic criteria "is an inference that there is a behavioral, psychological, or biological disfunction, and that the disturbance is not only in the relationship between the individual and society." DSM-III at 6. Thus, the manual is to be used to diagnose an individual *who has already been found to have a mental disorder*, not to determine the existence of mental illness.[24]

WALKER, FRAIZE, GORDON & JOHNSON, SUMMARY REPORT OF THE WORKSHOP ON PSYCHOLOGICAL STRESS ASSOCIATED WITH THE PROPOSED RESTART OF THREE MILE ISLAND, UNIT 1 (NUREG/CP-0026/MTR-82W26, April 1982).

[24] The lack of necessary correlation between the classification of a condition within DSM-III and "mental illness" may be illustrated by the following conditions which are also classified within DSM-III:

(a) 307.30—Atypical stereotyped movement disorder. "This category is for conditions such as head banging, rocking, repetitive hand movements consisting of quick, rhythmic, small hand rotations or repetitive voluntary movements that typically involve the fingers or arms. These disorders are distinguishable from tics in that they consist of voluntary movements and are not spasmodic." *Quick Reference* at 47-48. Woe to the finger tappers!

(b) 307.00—Stuttering. "Frequent repetitions or prolongations of sounds, syllables, or words or frequent, unusual hesitations and pauses which disrupt the rhythmic flow of speech." *Quick Reference* at 48.

Also, DSM-III identifies and includes a variety of "conditions" "where there is a need to note the reason for contact with the mental care system" although "no mental disorder has been found" or "the diagnostic evaluation has not been adequate to determine the presence or absence of a mental disorder." *Quick Reference* at 189. An example is V62.81—Other Interpersonal Problem. "This category can be used when a focus of attention or treatment is an

Further, the TMI-2 incident was not of the character or severity indicated by the American Psychiatric Association as giving rise to a post-traumatic stress disorder,[25] but there is significant disagreement among the experts whether even those indicated stressors cause, as opposed to trigger, a post-traumatic stress disorder.

Physical Symptoms: Not only does DSM-III not identify physical symptoms (other than headaches and vertigo) as features possibly associated with post-traumatic stress disorder, but the literature indicates only the most tentative relationship between stress and physical illness.[26]

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interpersonal problem (other than marital or parent-child) that is apparently not due to a mental disorder of the individual who is being evaluated. Examples are difficulties with co-workers, or with romantic partners." *Quick Reference* at 193.

[25] In its description of stressors which may give rise to post-traumatic stress disorder, the American Psychiatric Association states "the trauma may be experienced alone (rape or assault) or in the company of groups of people (military combat). Stressors producing this disorder include natural disasters (floods, earthquakes), accidental man-made disasters (car accidents with serious physical injury, airplane crashes, large fires) or deliberate man-made disasters (bombing, torture, death camps). Some stressors frequently produce the disorder (*e.g.*, torture) and others produce it only occasionally (*e.g.*, car accidents). Frequently there is a concomitant physical component to the trauma which may even involve direct damage to the central nervous system (*e.g.*, malnutrition, head trauma)." DSM-III at 236.

[26] Contrary to the assurances offered by *amicus curiae* American Psychological Association in its brief opposing the grant of a writ of certiorari ("*Phychological Association Brief*") at 11 n.17, the literature teaches that our knowledge of the relationship between life events or changes (whether positive or negative) and physical illness is an area where conclusions are quite questionable and subject to many mediating variables. . . the enormously difficult task awaits us of filling in the crucial steps in an all-encompassing model which takes into account not only environmental variables but the sociological, psychological, and physiological characteristics of the individual. We see a bright future for this field of investigation. It is truly a field in which the efforts of sociologists, psychologists,

As Dr. Antonovsky has written: "There seems to be no evidence that the life crises undoubtedly posed by disaster situations had either an immediate or even a delayed deleterious impact on health. If anything the contrary might even be true." [27]

To illustrate the absence of an ability to identify stress as the cause of physical disorder, we refer to a panel discussion of what is *not known* scientifically about such an apparently obvious relationship between stress and hypertension. In its summary and conclusions, the panel stated: "It was predictable that there would be a profusion of disparate issues in a session assembled to analyze why research had made so little progress in illucidating the role of stress in hypertension." [28] In its Message, the panel acknowledged not only the absence of "hard facts" in this area, but also the absence of an agreed methodology: "It became clear that the crisis in stress research on hypertension has come about in large part as a result of lack of communication and interaction among disciplines which are all necessarily involved in formulating appropriate questions and seeking the same ultimate understanding of the puzzles that surround hypertension." *Id.* at 22.

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psychiatrists, physiologists, endocrinologists, and pathologists will be necessary to provide a complete picture of the precise interrelationships between the vicissitudes of life and sickness." Rahe and Arthur, *Life Change and Illness Studies*, 4 JOURNAL OF HUMAN STRESS No. 1 at 3, 13 (March 1978); *see also, e.g., Bieliauskas, Life Events, 17-OHCS Measures, and Psychological Defensiveness in Relation to Aid-seeking*, 6 JOURNAL OF HUMAN STRESS No. 1 at 28 (March 1980); Fairbank and Hough, *Life Event Classification and the Event-Illness Relationship*, 5 JOURNAL OF HUMAN STRESS No. 3 at 41 (1979); STRESSFUL LIFE EVENTS: THEIR NATURE AND EFFECTS (Dohrenwend and Dohrenwend eds. 1973).

[27] Antonovsky, *Conceptual and Methodological Problems in the Study of Resistance Resources and Stressful Life Events in* STRESSFUL LIFE EVENTS: THEIR NATURE AND EFFECTS, Chapter 15 at 246 (Dohrenwend and Dohrenwend eds. 1969).

[28] *Session I: The Role of Stress in Hypertension*, 5 JOURNAL OF HUMAN STRESS No. 2 at 7, 20 (June 1978).

If the psychiatrists and experts from the other disciplines admit the current absence of hard facts and methodology to scientifically and medically assess the relationship between stress and hypertension, *a fortiori*, hard facts and methodology are absent as to the relationship between stress and the more exotic physical symptoms alleged by PANE.

PANE's Proffered "Studies and Expert Testimony": Although PANE's evidentiary plan mentioned proposed studies and expert testimony only in conclusory fashion, some light may be shed on the subject from PANE's subsequent request for financial assistance.[29] PANE's Request for Financial Assistance To Support Intervention on the Issues of Psychological Distress (NRC Docket No. 50-289 (Restart) Nov. 29, 1979).

Therein it proposed an annual budget of $90,472 including $28,252 for operating expenses (consisting primarily of the expenses of printing its newsletter, holding public meetings and producing "buttons, T-shirts," etc.); $10,000 as "PANE education expenses" (also de-

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[29] We do not address PANE's proffer of a "parade of witnesses describing their personal experiences during the TMI-2 accident and their concern about restarting TMI-1" (J.A. 46). We agree with the Board that "[t]his approach would soon become cumulative and, in any event, would be of doubtful value." *Id.*

Further, the American Psychological Association's indication that the Symptom Checklist—90R and the Minnesota Multiphasic Personality Inventory are objective instruments which would be of value here is subject to considerable doubt. *Psychological Association Brief* at 9-10. The doubt arises from the fact that these are *self-administered* tests easily capable of manipulation by the person taking the test. As Dr. Stanislav V. Kasl recently observed: "when data are collected under special circumstances—such as when a segment of the community is organizing itself to protest environmental hazards and prepare for legal action—*then all bets are off regarding the validity of such data.*" Kasl, *Methods to Evaluate Behavioral Effects of Environmental Exposure* prepared for the THIRD ANNUAL SYMPOSIUM ON ENVIRONMENTAL EPIDEMIOLOGY (April 26-28, 1982) (emphasis added).

scribed as the cost of a "media consultant"), and $52,220 in "intervention expenses." *Id.* at Att. 2.

The intervention expenses (to be funded by the Commission) included $28,560 for legal fees and expenses relating to an expected three weeks of hearings, and $23,660 for witness fees and expenses. Within this amount, PANE allocated $20,000 to expert witness fees for Dr. Kai T. Erikson and Dr. Robert Lifton (20 working days each at $300 per day), and for Dr. Edward Walsh "and colleague" (20 working days each at $200 per day). *Id.*

This implies that PANE expected to be able to answer through 80-man-days of work (presumably including hearing days) not only the questions of methodology but also, subsequently, of fact with which the medical and other professions have been struggling for centuries.

In this connection, PANE's choice of experts is also interesting. Dr. Lifton is on the record as (a) seeing no difference between nuclear warfare and nuclear power, (b) promoting the concept that the protests against nuclear power express the "wisdom of the body" superseding the rational assessments of science, and finally, (c) *fearing* (in 1976) that the occurrence of a nuclear accident might be a positive influence on society's acceptance of nuclear power.[30] Also, it is not clear that Dr. Walsh

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[30] Almost three years before the TMI-2 incident, Dr. Lifton published an article entitled *Nuclear Energy and the Wisdom of the Body* in which he made the following statements: (1) "Hiroshima is my image behind nuclear power issues and I believe it is the image shared by all of us" (at 16); (2) "Psychiatrists are usually called upon to say that the resistance to . . . nuclear energy, is 'irrational' and 'emotional.' I believe the uneasiness related to both nuclear weapons and power as expressed by mass protest movements throughout the world represents the most fundamental, primal fears about the integrity of the human body, as threatened by the invisible poison of irradiation. It is an expression of . . . 'the wisdom of the body'" (at 18); (3) "Even some scientists who have been critical of the nuclear arms race are enthusiastic about nuclear power. Here they perhaps share with many the feeling that the nuclear deity

would still be acceptable to PANE as a witness given that he subsequently published a study which had as one of its conclusions that "public hearing processes, . . ., may become more an instrument of protest mobilization than of social control, especially when organized protest ideology is available." [31] For Dr. Erikson's view, see note 21 *supra*.

Finally, we address the Psychological Association Brief with respect to the available methodology and "hard facts." The most striking feature of that brief is its professionally tentative character. For example, it states "the *possibility* that psychological stress at TMI is, in fact, measurable, is *quite substantial*." *Psychological Association Brief* at 9 (emphasis added). This compounded

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should be capable of unlimited creation as well as apocalyptic destruction. Scientists who have worked on the bomb have a particular inclination to seek something constructive deriving from their efforts, something that can serve mankind" (at 20); and (4) "Some people have suggested that one accident or one explosion might be necessary to remind the world of the necessity to control the nuclear dangers in our midst. Such crises, however, may have precisely the opposite effect . . . publicizing the horrors alone can have the impact of enhancing the very process we want to interrupt. We need to disseminate information that conveys the full danger of the human effects of nuclear technology and that provides possible directions for policy in action" (at 20). 32 THE BULLETIN OF THE ATOMIC SCIENTISTS No. 7 at 16 (Sept. 1976). One can only wonder what Dr. Lifton's reaction would be to the survey *in Japan* in 1975 which resulted in a finding that 48 percent of the people expressed some fears of atomic energy but *70 percent* took the need for nuclear power for granted. Yamada and Ohori, *Public Acceptance of Nuclear Power Development in Japan*, PROCEEDINGS OF INTERNATIONAL CONFERENCE ON NUCLEAR POWER at 185-95 (IAEA, May 2-13, 1977).

[31] In a paper presented to the American Sociological Association in August 1980, Dr. Walsh considered the rapid growth and development of social movement organizations around TMI after the 1979 incident for the purpose of assessing and refining theories on social movements. Walsh, *Resource Mobilization and Citizen Protests in Communities Around Three Mile Island*, 29 SOCIAL PROBLEMS: No. 1 at 18-19 (Oct. 1981).

qualification tells us of the psychologists' hopes for the future, an admirable quality of any advancing discipline, but it does not tell us of methods and facts currently available.

Predictability: Before we can attain the ability to predict a relationship among life events, stress, mental disorders and physical disorders, we must at least be able to understand existing relationships, if any. The authorities cited above indicate the many stages through which we must pass before that ability can, if ever, be attained.[32] The statements by the American Psychological Association that "it is also *possible* to examine . . . anticipatory anxieties in *individual* cases" and that "efforts have been made to predict, . . ., what additional stress would be caused by restarting TMI-1" do not contradict this analysis of the state-of-the-art.[33]

C. The Legal and Political Inferences

Above we have parsed PANE's contention and then presented examples from the medical and interdisciplinary literature to illustrate the extraordinary degree of uncertainty admitted by the experts to *each element* of the contention.[34] The legal inference is that any one of these uncertainties (much less the compound uncertainty of the chain) would make the contention inadmissible in an adjudicatory proceeding. *See, e.g., Roe v. Wade*, 410 U.S. 113, 119 (1973).

The Nation has decided by repeated Acts of Congress to pursue the peaceful uses of atomic energy and has

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[32] *See, e.g.*, authorities cited in note 26 *supra*.

[33] *Psychological Association Brief* at 10 and 15-16, respectively (emphasis added). The first statement addresses a present not a future condition and the latter addresses only "efforts" without any judgment as to confidence in the methodology, much less the results.

[34] Our analysis of the state-of-the-art in the various scientific and sociological areas discussed above does not reflect a nihilistic attitude toward such inquiries, but is presented only to demonstrate their current inappropriateness to the adjudicatory process.

delegated to the Commission the limited technical task of ensuring that licensed activities are conducted with reasonable assurance to the public health and safety. If PANE wishes to pursue such political arguments (*see* 28 *supra*) in the legislative or electoral forums of our society, it is free to do so; but fear itself has no place in the adjudication of safety issues interstitial to a program already authorized by Congress. *Vermont Yankee II*, 435 U.S. at 558.

Finally, we express our most basic concern over any attempt to elevate fear itself over reason in our society's decisionmaking functions. In those few instances where this has occured, we have come to regret it. *See, e.g., Korematsu v. United States*, 323 U.S. 214 (1944).

CONCLUSION

For the reasons stated above, the Amended Judgment of the court of appeals should be reversed, and the case should be remanded with instructions to dismiss PANE's Petition for Review.

Respectfully submitted,

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